

Quiz #3: Take-Home

Directions: Please show all work since partial credit is given. Answers without the necessary work will receive no credit. The quiz is due no later than **Monday, February 8, at 12:01 pm**. Remember, have fun!

1. Let $f(x) = -x^2 + 6x - 8$.

a) Rewrite $f(x)$ in standard form ($f(x) = a(x-h)^2 + k$ form).

b) Identify the vertex and axis of symmetry for $f(x)$.

Vertex: _____

Axis: _____

2. Let $P(x) = 2x^3 + 4x^2 - 13x + 12$, and suppose $P(-4) = 0$.

a) Factor $P(x)$ completely. _____

b) Find all solutions of the equation $P(x) = 0$. _____

c) Describe the end behavior (Global behavior) of $P(x)$. Make sure to use the appropriate notation.